

Food, Water, Shelter, Space

Next Generation Science Standards:

- K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
- K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.
- 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.

Hawai'i Content and Performance Standards III:

- SC.K.3.1 Identify similarities and differences between plants and animals.
- SC.1.3.1 Identify the requirements of plants and animals to survive (e.g., food, air, light, water)
- SC.1.5.2 Describe the physical characteristics of living things that enable them to live in their environment.
- SC.2.3.1 Describe how animals depend on plants and animals.
- SC.2.5.1 Identify distinct environments and the different kinds of organisms each environment supports.

Description:

This lesson identifies the basic survival needs that are shared by people and all other plants and animals. They are food, water, shelter and space. Students will compare various habitats in Haleakalā, such as the pools of 'Ōhe'o and cloud forests, and list living things found in each environment. They will learn a song that describes the different survival needs of various animals and plants, and try to figure out what species is being described. The lesson concludes with an activity where students match the species with its habitat and create a habitat book.

Duration: 45 minutes

Objectives: At the end of this lesson, the students will be able to:

- Demonstrate an understanding that a habitat is a home, and native habitats are the best and only home for native species.
- Recognize that some plants and animals have specific needs and live in special homes that give them what they need.

Background:

Every living thing requires food, water, shelter, and space in which to live. The place where it gets these things is called its habitat. Some living things can only survive in very specific habitats – where the air is a certain temperature, the soil a particular type, or a certain food can be found. These plants and animals are very vulnerable to changes in their environment. Other

living things, such as humans, can live in a wide variety of habitats. These species are less vulnerable to change.

In the Hawaiian Islands, many plants and animals have evolved to live in very specific habitats. When we disturb these habitats, the species in them are often placed in danger or even faced with extinction. It is important that we become aware of and learn to respect the habitats of other living things.

Vocabulary:

Habitat: A home where a plant or animal finds food, water, shelter, and space to survive.

Species: A plant, animal, or insect.

Survival: Meeting the needs of food, water, shelter, and space.

Materials Needed:

My Habitat Book Worksheet (included)

Scissors

Stapler

Coloring Supplies

Procedure:

Step 1: Introduction

- Ask students what they need to live.
 - Have them name only essential resources.
 - Classify their answers as food, water, shelter or space (include air in space).
 - Explain that these things make up the habitat where we live.
- A forest is as busy as the neighborhood you live in. You have to look very closely to see the living things in a forest habitat.
- A forest is made up of many different types of trees. For many forest species, trees are the “houses” of a forest habitat.
 - Each tree shelters many different animals. Some birds live high up in the treetops in nests while others may live on the ground or in burrows near the base of the tree.
 - Ants and other insects can live on the tree trunk and around the base of the tree near the roots.
 - If you look very closely you may even see a spider building its delicate home between the branches of a tree or hanging out underneath a leaf in the forest.
- The soil is another habitat where earthworms, mites, beetles, and other insects live, mostly hiding out of sight. They break down leaves and twigs and make small airways through the soil.

Step 2: Compare different habitats

- Ask students if a fish has the same living requirements as people. Explain that while a fish's habitat may be different, it still needs food, water, shelter, and space (and air from water). Discuss.
- Compare various habitats in Haleakalā, such as the Pools of 'Ohe'o and cloud forests, and list living things found in each environment.
- Ask students to list or name other habitats on Maui (rainforest, ocean, beach, tide pools, wetlands, and caves). Then, try to name living things (plant or animal) that live in each of these habitats. A chart on the board is helpful.
- Expand the list to include habitats found in other places like Africa, or Antarctica (arctic, grassland, savanna, and desert). Name as many plants or animals they can think of for each habitat.

Step 3: Sing a song

Teach the students the following song and hand movements to the tune of "Twinkle, Twinkle Little Star."

Hand movements:

"food" (hands on stomach)

"water" (hands to lips)

"shelter" (hands making roof above head)

"space" (hands outstretched)

"makes a happy living place" (fingers point to smiles, head rocking side to side)

Refrain:

Food, water, shelter, space

Makes a happy living place,

I live in my habitat,

Eating bits of this and that.

Food, water, shelter, space

Makes a happy living place.

Sing the song together until everyone knows the words and motions. Then sing the song again, this way:

Food, water, shelter, space

Makes a happy living place,

I live on a silken bed

Eating insects in my web,

Food, water, shelter, space

Make a happy living place.

Challenge the class to identify the plant or animal described in the riddle (*a spider*). Continue singing the song and have students solve the riddles with the following line substitutions:

<i>I live curled inside my shell.</i> <i>Leaves and grasses serve me well.</i>	(snail)
<i>I live in the deep blue sea,</i> <i>Spouting water when I breathe.</i>	(whale)
<i>I live in a safe cocoon,</i> <i>I'll be a butterfly soon.</i>	(caterpillar)
<i>I live high up in a tree.</i> <i>Fruits and bugs can't hide from me.</i>	(bird)
<i>I make food out in the sun.</i> <i>My toes are long but I can't run.</i>	(plant)
<i>I live on the side of a stone.</i> <i>Damp and dark and cool is my home.</i>	(moss or a snail)
<i>A school roof shades me from the sun.</i> <i>With food, and friends, and lots of fun!</i>	(student)

Step 4: Create My Habitat Book

- Ask the students: what do all plants and animals need to survive? = Food, water, shelter, and space.
- Distribute the My Habitat Book worksheet and have students color it.
- Have the students cut out the species and the habitats along the solid black lines. They will have 10 “pages” for their habitat books.
- Have students match up the species to its corresponding habitat and order the pages in their habitat books this way.
- Staple all the pieces together to make a book.
- They can title it “My Habitat Book”.
- You could also add additional blank pages for them to draw more species and their corresponding habitats.

Reference: Adapted from ‘Ōhi‘a Project. (1989). A happy place to live. *An environmental education guidebook for Hawai‘i* (pp. 48-51). Honolulu, HI: Bernice Pauahi Bishop Museum and Moanalua Gardens Foundation.

My Habitat Book

